

IN THE CLAIMS:

Please amend the claims and add new Claims 16 to 20 as shown below.

The claims, as pending in the subject application, read as follows:

1. (Currently Amended) An image processing apparatus, comprising:  
a quantization section, arranged to quantize, in each pixel, means for  
~~quantizing~~ multi-valued image data into N-valued data (where N is a natural number), and  
output ~~outputting~~ the N-valued data as a K-bit code (where K is a natural number) that can  
express the N values;  
a converter, arranged to combine and convert ~~conversion means for~~  
~~combining and converting~~ K-bit codes for M pixels (where M is a natural number) into an  
L-bit code (where  $L < M \times K$ ); and  
an output section, arranged to pack ~~output means for packing and outputting~~  
data ~~converted by output from~~ said converter ~~conversion means~~ into data of a  
predetermined ~~bit unit~~ number of bits, and output the packed data.
2. (Currently Amended) The apparatus according to claim 1, wherein the  
predetermined number of bits ~~bit unit~~ is equal to that ~~a natural number multiple of the L~~  
~~bits, and data of the predetermined data~~ which ~~unit~~ is to be transferred to an image forming  
apparatus.
3. (Currently Amended) The apparatus according to claim 2, further  
comprising a controller arranged to compute ~~control means for computing~~ a memory size

that the image forming apparatus requires for a process, and to control ~~controlling~~ said converter ~~conversion means~~ in accordance with the computation result.

4. (Currently Amended) The apparatus according to claim 3, wherein said controller ~~control means~~ controls said converter ~~conversion means~~ in a through pass state when the computed memory size required for the process is smaller than a memory size that the image forming apparatus can use.

5. (Currently Amended) The apparatus according to claim 1, wherein said quantization section ~~means~~ and said converter ~~conversion means~~ execute processes according to color components of the image data.

6. (Currently Amended) The apparatus according to claim 5, wherein said quantization section ~~means~~ quantizes image data of a color component in which a quantization error readily stands out to the N-valued data, and quantizes image data of a color component in which a quantization error hardly stands out to N'-valued data (where  $N' < N$ ).

7. (Currently Amended) The apparatus according to claim 6, wherein said converter ~~conversion means~~ does not convert the image data of the color component in which the quantization error hardly stands out.

8. (Currently Amended) An image processing method, comprising the steps of:

quantizing, in each pixel, multi-valued image data into N-valued data (where N is a natural number), and outputting the N-valued data as a K-bit code (where K is a natural number) that can express the N values;

combining and converting K-bit codes for M pixels (where M is a natural number) into an L-bit code (where  $L < M \times K$ ); ~~and~~

packing ~~and outputting~~ data converted in ~~output from~~ the conversion step into data of a predetermined ~~bit-unit~~ number of bits; and

outputting the packed data.

9. (Currently Amended) The method according to claim 8, wherein the predetermined number of bits ~~bit-unit~~ is equal to that ~~a natural number multiple of the L bits, and data of the predetermined data unit~~ which is to be transferred to an image forming apparatus.

10. (Currently Amended) The method according to claim ~~[[8]]~~ 9, further comprising the step of computing a memory size that the image forming apparatus requires for a process, and controlling the conversion step in accordance with the computation result.

11. (Original) The method according to claim 10, wherein the control step includes the step of controlling the conversion step in a through pass state when the

computed memory size required for the process is smaller than a memory size that the image forming apparatus can use.

12. (Original) The method according to claim 8, wherein the quantization step and the conversion step execute processes according to color components of the image data.

13. (Original) The method according to claim 12, wherein the quantization step includes the step of quantizing image data of a color component in which a quantization error readily stands out to the N-valued data, and quantizing image data of a color component in which a quantization error hardly stands out to N'-valued data (where  $N' < N$ ).

14. (Original) The method according to claim 13, wherein the conversion step includes the step of skipping conversion of the image data of the color component in which the quantization error hardly stands out.

15. (Currently Amended) A computer program product stored on ~~comprising~~ a computer readable medium and comprising ~~having~~ a computer program code[[,]] for an image processing method, the method ~~comprising process-procedure-code~~ for the steps of:

quantizing, in each pixel, multi-valued image data into N-valued data (where N is a natural number), and outputting the N-valued data as a K-bit code (where K is a natural number) that can express the N values;

combining and converting K-bit codes for M pixels (where M is a natural number) into an L-bit code (where  $L < M \times K$ ); ~~and~~

packing ~~and outputting~~ data converted in ~~output from~~ the conversion step into data of a predetermined ~~bit unit~~ number of bits; and  
outputting the packed data.

16. (New) An image processing apparatus comprising:

a quantization section, arranged to quantize, in each pixel, multi-valued image data into N-valued data (where N is a natural number), and output a K-bit code capable of expressing the N values;

a converter, arranged to collect K-bit codes for M pixels (where M is a natural number), and convert the collected K-bit codes into an L-bit code (where  $L < M \times K$ ); and

an output section, arranged to pack the L-bit code and the N-valued data into data of a predetermined number of bits, and output the packed data.

17. (New) A printer driver which is executed in an information processing apparatus, said driver comprising:

a quantization module which quantizes, in each pixel, multi-valued image data into N-valued data (where N is a natural number), and outputs a K-bit code capable of expressing the N values;

a conversion module which collects K-bit codes for M pixels (where M is a natural number), and converts the collected K-bit codes into a L-bit code (where  $L < M \times K$ );

a packing module which packs the L-bit code and the N-valued data into data of a predetermined number of bits; and

an output module which outputs the packed data.

18. (New) The apparatus according to claim 2, wherein the image forming apparatus prints an image on the basis of data received from the image processing apparatus, and said image forming apparatus comprises:

a separator, arranged to separate the received data into compressed code of a first predetermined number of bits and uncompressed code of a second predetermined number of bits;

a restorer, arranged to restore the separated compressed code to a plurality of the uncompressed code; and

a print section, arranged to print an image using the separated and restored uncompressed code.

19. (New) The apparatus according to claim 6, wherein the color component in which the quantization error readily stands out is a cyan, magenta, or black component.

20. (New) The apparatus according to claim 6, wherein the color component in which the quantization error hardly stands out is a yellow component.